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03/01/2006

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1. (Original) A gain-clamped semiconductor optical amplifier having a horizontal lasing structure, the gain-clamped semiconductor optical amplifier comprising:

a gain layer for amplifying an optical signal;

a Bragg lattice layer formed on both sides of the gain layer along a longitudinal direction of the gain layer, said Bragg layer enabling light having a corresponding wavelength to resonate in a direction vertical to a longitudinal direction of the gain layer;

a passive light waveguide layer for restraining light resonating between lattices of the Bragg lattice layer;

an electrode for supplying current to the gain layer; and

a current-blocking layer for preventing current from flowing to an area other than the gain layer.

2. (Original) The gain-clamped semiconductor optical amplifier as claimed in claim 1, wherein the passive light waveguide layer is formed above the Bragg lattice layer.

3. (Original) The gain-clamped semiconductor optical amplifier as claimed in claim 1, wherein the passive light waveguide layer is formed below the Bragg lattice layer.

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4. (Original) The gain-clamped semiconductor optical amplifier as claimed in claim 1, further comprising a phase conversion area formed at one side of the Bragg lattice layer.

5. (Original) The gain-clamped semiconductor optical amplifier as claimed in claim 1, wherein the phase conversion area is adjusted by omitting a predetermined portion of the Bragg lattices from the Bragg layer.

6. (Original) The gain-clamped semiconductor optical amplifier as claimed in claim 4, further comprising a phase conversion electrode for supplying current to the phase conversion area.

7. (Original) The gain-clamped semiconductor optical amplifier as claimed in claim 5, further comprising a phase conversion electrode for supplying current to the phase conversion area.

8. (Original) The gain-clamped semiconductor optical amplifier as claimed in claim 1, wherein the gain-clamped semiconductor optical amplifier includes a ridge type gain-clamped semiconductor optical amplifier.

9. (Original) The gain-clamped semiconductor optical amplifier as claimed in claim 1, wherein the gain-clamped semiconductor optical amplifier has a buried hetero-structure.